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ABSTRACT

A large proportion of those who seek drug abuse information from a telephone hotline service have immediate drug information needs, either for themselves or to assist others. Requests for general or pharmacological information are less frequent. Content analysis was applied in a study of telephone calls to a Hartford, Connecticut, "drug abuse hotline" to determine (1) time of the calls, (2) source of the calls (drug user, relative, friend), (3) sex of the caller, and (4) communication content (treatment information, legal questions, emergency assistance, or the handling of drug users, for example). Results indicated that most callers were women and that most information seeking occurred between Saturday and Tuesday. The most frequently requested type of information was treatment-related and was usually requested by probable nonusers. Analysis of hotline usage is an indicator of information needs and can provide direction for professional communicators in conducting mass media anti-drug campaign. (RN)

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THE SEARCH FOR DRUG ABUSE INFORMATION

by

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April 1972

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DRUG ABUSE INFORMATION RESEARCH PROJECT
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This report is one of a series of descriptive and predictive studies into the cognitive, affective and behavioral responses to drug abuse information. Project DAIR (Drug Abuse Information Research), proposes to define dimensions of information seeking and utilization that relate to drug abuse. Investigations in this series develop and implement the instrumentation for a methodology which includes surveys, experimental manipulations, field experiments and modeling. One goal of the series is the development of a stochastic behavioral model which allows the prediction of drug use behavior consequent to specified exposure from drug abuse information.

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One approach to determining how to dissiminate information to a particular public is to conduct a post hoc assessment of who uses what messages for which purposes during the initial stages of a message campaign. Subsequent efforts could then direct specific communications to those audience groups most in need or most receptive, depending upon campaign goals. Thus, if we wanted to investigate how drug abuse information, for example, is utilized by various groups, we might propose audience analysis cast into an after-only experimental design and compare "awareness" means between groups. This is often the paradigm of advertising and diffusion research.

An alternative method would be to attempt to determine, ad hoc, the differential information "needs" among various audiences. In this case, an approach might be to contact various expert agencies and identify types of information typically sought from them; then, to follow-up the information seekers and determine utilization patterns. Nevertheless, this approach, while laudatory because it is receiver as well as source-oriented, may sensitize the respondent to utilization demands.

Ideally, to alleviate such experimental demands and still assess the information needs and utility prior to the inception of large scale dissemination activities, one might incorporate unobtrusive data gathering methods. The advantages of unobtrusive methods are their freedom from experimental biases, especially reactive error.[1] Of course, such advantages must be weighed against a lack of control, especially over populations sampled.

This study is an attempt to determine what types of information are sought regarding drug abuse (that is, about drug treatment and effects), by content analyzing the log entries of a telephone drug hotline. It also explores the role of the telephone as an instantaneous communication medium.

On the assumption that there is correspondence between information seeking and information need, such a content analysis provides descriptive receiver

data useful in planning communication strategies. Not only are the data constituting the log entries longitudinal, thus providing greater generalizability than one shot analyses, but sampling biases may be considered minimal if one considers that a need for information is roughly equivalent to an actual request for such information. That is, it seems tenable that the individuals seeking information from a telephone service constitute a large proportion of those "needing" drug abuse information.

Certain conceptual relationships between information search and effort have been well-defined in the literature. Uncertainty is usually posited as the motivating factor in information search, whether this search reters to stimulus fields (e.g. pictoral presentations) or information seeking for instrumental purposes.[2] For these purposes, uncertainty is conceived as an individual's lack of knowledge about a particular referent implied by a message (or its alternatives) and even his lack of information retrieval strategies with regard to defining his alternatives.

Certain variables are known to interact with the uncertainty determinant of information search, particularly dogmatism[3] and ego-involvement.[4] Simonson,[5] for instance, found that individuals with a high fear of dental decay both desired and actually sough more information than low-fear counterparts when exposed to a high fear of consequences appeal, a finding similar to those of Paisley.[6]

Another theoretic approach to information seeking is expressed in the work on selective exposure summarized by Sears and Freedman.[7] They find paradoxical claims describing selective exposure to information, with experimental evidence not supporting a psychological tendency to seek out supportive information, yet mass communication researchers pointing to <u>de facto</u> selectivity, that is, overrepresentation of sympathetic audiences to supportive mass communications. Sears and Freedman suggest however, that information selectivity may be accomplished

most often during information evaluation, rather than at the level of selective seeking and avoiding of information.

Finally, of course, we must be concerned with the interaction between interpersonal determinants of information seeking and mass communicated information as expressed in the body of data on opinion leadership and innovation diffusion.

Frequently, a media-to-opinion-leaders-to-follower paradigm is posited.[8] In terms of information seeking, Rogers[9] found that opinion leaders rely heavily on the mass media or on impersonal, technical sources of information. He has also found that in developing countries early adopters tend to seek information from the media such opinion leaders, who might be the local school teacher or agricultural extension worker. Although most of Rogers' knowledge claims derive from studies executed in relatively simple societies, Troldahl[10] provides evidence from a more complex society. The Troldahl group data indicates that for certain categories of information (e.g. public affairs), opinion leadership is predominantly a two-way process; with as much information sharing as information imparting occurring between opinion leaders and "followers".

Note, however, that the opinion leadership notions imply some type of publicness attributed to the information. That is, individuals are not afraid to publicly communicate with others to fulfill their informational needs. Rogers[11] recently hypothesized that certain types of information, particularly birth control information, may not be amenable to such an opinion leadership paradigm. In fact, he suggests, the private nature of birth control for some women, especially in developing countries where their role is usually considered subordinate to men, may dictate the utilization of different channels for information seeking. It is possible then, that drug abuse information seeking may follow similar patterns in certain cases: a) when the information needed is instrumental (of immediate utility) in providing treatment or guidance and b) when the information is sought by persons not engaged in the drug milieu.

In the former case the lack of perceived high credible sources who can deal, say, with heroin overdose, may lead the individual to communicate with more expert agencies. Likewise, parents, or relatives of users who have no contacts in the drug culture may not want to braodcast their family's involvement in drug abuse and in fact may also not perceive their neighbors competent to deal with drug matters. It may be one case to search out one's neighbor for information about controlling crab grass, yet it is demonstrably different to seek him out for help in dealing with children "tripping" on LSD. In the latter instance, the parent or relative not only risks exposing his children's illegal involvement in certain activities (and indirectly his lack of control over his siblings) but also risks obtaining inaccurate information.

Finally, as has been indicated in a number of studies in this series,[12] the information seeker requesting help with drug abuse related problems may seek entirely different sources depending on the perceived riskiness of the drug involved. This multidimensional range of sources has frequently been unexplored by those investigating information seeking. However, Rogers[13] has indicated that opinion leaders tend to be polymorphic in complex societies and monomorphic in developing countries and that early adopters tend to be more favorable toward risk than late adopters in the case of drug abuse information. For instance, Hanneman[14] has shown that those seeking information about low risk drugs, such as marijuana, prefer qualitatively different communication sources (e.g. friends) than those seeking information about high risk drugs such as various psychedelics and the opiate drugs (e.g. phone "help" lines and doctors).

The function of telephone drug help lines was previously documented in this series of studies.[15] In a study of 407 college students' information seeking behaviors, it was found that those seeking information from telephone drug lines were primarily aware of the drug abuse effects from friends and television ads; considered doctors to be the most believable source about drugs and tended to be primarily nonusers, older, own a car and have higher status families. Such indiv-

iduals also favored the status quo in drug laws. Among users, telephone help lines were the preferred sources of drug abuse information after friends and professional sources. For nonusers, they were the second preferred source after professional sources such as doctors, clinics and drug programs. Breaking down preference, however, telephone lines were rated most believable by nonusers.

The preceding study utilized closed ended options in the survey instrument. In a later study,[16] 207 subjects were asked to suggest a number of drug abuse informations sources. Telephone hot lines were suggested as the most convenient source after friends, but when asked which sources they would actually rely on or recommend to others, doctors, books and pamphlets about drugs were strongly preferred over 20 other sources, including phone lines.

Overall, however, data on phone as a communication medium are lacking. Typically, reports of research on the telephone has centered on telephone usage in survey research.[17] However, recently work has been reported on the function of the telephone in various work settings and in therapy.

Swoboda[18] found that county extension agents with access to a statewide WATS line primarily sought short answers to technical problems and reduced their personal correspondence. Thus the phone provided instantaneous feedback to specialists in the field, hence clients. Rosenblum[19] maintained that telephone therapy is a necessity, sometimes even replacing interpersonal contact for those patients threatened or fleeing from close relationships. He also found the instantaneous feedback and support that could be provided over the phone often helped patients too distant or unable to come for direct therapy, especially during instances of immediate emotional turmoil. Koumans, Muller and Miller[20] found that a single phone call to chronic alcoholics had a significant positive effect on their motivation to return to treatment when compared to a similar group receiving no phone call.

In a more comprehensive investigation of the usage of telephone versus face-

to-face contacts with physicians, Pope, Yoshioka and Greenlick[21] found that generally those higher in education, occupation, income and social class were relatively more likely to use the telephone for reporting symptoms of a new disease and relatively less likely to use face-to-face contacts than were those lower on the SES indices. This corresponds to the notion of cosmopoliteness as a determinant of information seeking, proferred by Rogers.[22]

Tabachnick and Klugman[23] content analyzed the tape recorded calls to a Suicide Prevention Center. However, the study is analysis of the suicidal content, and precludes discussion of the telephone as communication modality.

Other investigations into telephone usage as a communications medium disclosed that during the average working day, a person will spend about 7% of his time on the telephone;[24] and that those most highly identified as sources of information in an organization tended to favor personal contacts, and strongly favored the use of the telephone for technical communications when compared to less integrated coworkers.[25]

Other data about telephone usage comes from a study of urban-rural differences in communication patterns by Hanneman, Durham and Greenberg.[26] In an area probability sample of 256 Eastern Connecticut residents (with over-representation of blacks), respondents made an average of 2.6 calls per day, and received 2.9 calls. Typically, about 28% of the calls made and received were to solicit information, while only 16% were to give information, another 56% communicated "social talk." These data also indicated that phone usage was significantly and directly related to television and radio set ownership.

Given our examination of information seeking and the telephone as a communication medium, certain predictions may be made within this study. However, because this study is intended to be descriptive, rather than predictive, the only expectation based on previous literature, is that most calls will be for instrumental purposes, specifically regarding treatment and, that treatment information will be

sought, as suggested earlier, primarily by persons other than users, persons not integrated into the drug culture. Other than this, the paucity of the logged data suggests an exploratory approach.

METHOD

This study involved the content analysis of all logged telephone calls to a Hartford, Connecticut drug hotline, operating with trained volunteers from 8:30 to midnight daily. The analysis period totaled seven months for which written logs were available: January 2, 1970 to April 5, 1970 and November 1, 1971 until February 27, 1972; a total of 756 calls were logged. During the intial 1970 period of operation of the drug line, numerous callers requested hospital administrative or nondrug related information. In addition, other calls consisted of wrong numbers, crank calls, requests for information about persons in drug programs, information about the drug line, or people who wanted to "have someone to talk to."

All calls not seeking information about drugs were excluded from the analysis, leaving a final N of 418 calls. A 50% sample was made to construct coding categories. All calls were categorized by the same person.

THE CODING INSTRUMENT

For each logged call, four items of information were coded: the day the call was made; the source of the call; the sex of the caller; and the content of the call.

Established categories stipulated four possible sources of a call. An information seeker is someone who was seeking generalized information about drugs, but made no reference to use or treatment for himself, nor of seeking the information for someone else. A user is someone who identified himself as seeking information about treatment, effects, and antidotes for his present or potential drug use. Relatives or friends of users were identified as those seeking information about treatment, effects, antidotes or specific drugs instrumental in aiding a sibling, spouse or friend.

The Content of the call had seven exclusive coding options. The first type of call requested specific pharmacological information, in which the caller named a drug and inquired about effects in any general sense. The second type of call pertained to treatment information in which callers requested information about physical or psychological treatment of users not of an immediate or emergency basis. Legal queries were the third type of content coded in which callers had to refer to either penalties, police prodedures or laws regarding any kind of drug use, either for themselves or someone else. Emergency assistance calls were the fourth type of content in which callers had to state a request for immediate treatment due to drug overdose or other effect at the time of the call. Handling others described a fifth type of call in which a person requested information on how to cope with a relative or friend on drugs, and the information could either be about where to seek treatment or how to help the users themselves. A sixth type of call dealt with drugs found in the domicile of the caller, where the caller has specified finding drugs or substances thought to be drugs and wants information regarding their disposition. The seventh type of content coded was general drug information which described those calls requesting nonspecific (no drugs named) information about drugs or effects, such as, "What happens if I take drugs?" This category also included general requests about where to get drug abuse information literature or treatment without specific reference. Calls requesting information about where to turn in suspected pushers, what to do about family and social problems caused by drugs, information about specific counselors or which only met the coding criteria partially (perhaps due to incomplete log entries) were coded as "indeterminable."

RESULTS

Tables 1 through 4 display the results of the content analysis. Table 1 show that most calls for drug abuse information were made on Tuesday and Saturday, with over 70% of the inquiries made between those two days. The frequencies of

calls differ significantly by day ($p<.001$). It was expected that most treatment calls would be made by persons other than the user himself. Table 2 confirms this relationship, indicating that 42% of the calls were made by relatives or friends of the user ($X^2=12.1$; df=1; $p<.001$), with most calls being placed by women (57.7%).

The distribution of calls by categories also differed significantly ($p<.001$) and Table 4 indicates that 37.6% of the calls dealt with treatment information and another 26.7% with the related problems of coping with those on drugs. The expectation was supported ($X^2=29.4$; df=1; $p<.001$) that most callers (64.3%) seek instrumental treatment or coping information (that is, information of immediate utility to the problem at hand).

In addition to the simple frequencies reported, the interaction among variables also deserves consideration in predicting patterns of information seeking about drugs.

Using day as an independent variable, yields generally insignificant results. That is, there is no difference in either the source or sex of the callers made on any particular day. However, there is a marginal relationship (Contingency Coefficient = .35) between day and content of the call ($X^2=48.8$; df=36; $p<.07$). Table 6 summarizes this relationship.

The relationship between sex and source of call is also significant ($X^2=14.05$; df=3; $p<.002$), with most women (39%) calling as relatives of users and most men calling (37%) as users. Furthermore, the majority of information seekers (58%), relatives of users (68%), and friends of users (60%), tend to be women, while the majority of users calling (56%) tend to be men.

Similarly, as one might predict, the relationship between the content of the call and sex of the caller is significant ($X^2=20.4$, df=6; $p<.002$), with most women calling about handling relatives or friends on drugs (since they tend to be calling in this role) and most men calling about treatment information. Thus, calls about treatment, legal information, emergency treatment, tend to be made by

men, while calls about pharmacological facts, coping information, and general drug information tend to be primarily made by women, as summarized in Table 6.

The most heuristic of the data presented here is the relationship between the source of the call and the content. This relationship is expressed in the significant statistical relationship here (X^2=340; df=18; $p<.001$). These data are presented in Table 5. That is, information seekers tend to seek pharmacological and general drug information; users tend to seek information about treatment; relatives and friends seek information about how to handle others on drugs, but not specifically treatment.

Table 6 further delineates these relationships from the point of view of the message function as a predictor of source and time of call.

DISCUSSION AND IMPLICATIONS

The data indicated the following relationships:

- -drug abuse information seeking occurs primarily between Saturday and Tuesday, with most calls occurring on those two days
- -42% of the inquiries are by relatives and friends of users; only 27% are by the user himself
- -most calls (58%) to the drug line were made by women
- -most callers seek treatment information (38%) and information on how to cope with others on drugs (27%); thus, 65% of the calls were treatment related.

In terms of significant relationship data, women tend to call in the role of relatives, friends and to some extent information seekers, calling primarily about non-treatment related information on Mondays, and Thursdays through Sundays. Men call primarily as users, about treatment information or legal information, primarily on Saturday, Tuesday and Wednesday.

The most heuristic of the data seems to be the relationship between source and content of the call. That is, on the basis of the caller identification alone, content may be predicted. This may indicate that in the case of drug abuse, where audience characteristics can be specified, information needs are "automatically"

determined.

In providing instantaneous instrumental information, the hotline performs a unique communications role. For the isolated individual, it is the only message medium which is almost always available with flexible communication characteristics. That is, it can provide information to help a heroin O.D., and minutes later provide information about an antidote for the effects of LSD. Few communication sources in our society today offer such flexibility.

In another report[27] on the communication of drug abuse information, the evolution of the drug hotline was briefly explored. In essence, it was suggested that such services evolved out of a need for instantaneous and relatively effort-free information not readily available elsewhere. The need for information not dependent upon other media, such as transportation systems, nor dependent upon time, probably contributed to the evolution of the phone service. Not only does this modality provide information to the seeker regardless of space and time restrictions, but such information can be specific. Thus, "crisis" phone services (e.g. draft, birth control, sex, legal and activities) grew dramatically in the 1960's. The National Clearinghouse for Drug Abuse Information[28] provides a conservative identification of 459 hotlines providing drug abuse information operating during May 1972. In Connecticut alone, there were at least 19 operations in the fall of 1972, with 7 in a three county calling area.

Most of these lines provide overlapping service and information. Yet their growth apparently continues. In this discussion, then, at least two questions become apparent: What is the impact of such service on our communication environment?, and, What are the implications of their presence?

The existence of hotlines reflects on the low information availability about certain topics in the larger environment. In a way, they reflect the paucity of factual, non-propagandistic information in the mass media. They are also, as indicated by this study, an indicator of receiver informational needs, and as such may provide direction to professional communicators devising mass communication

campaigns.

The popularity and utilization of phone hotlines may indicated more subtler changes in commuication patterns. Their popularity may implicate the instability or lack of factual, instrumental information (e.g. medical advise, drug abuse treatment facts) in media. Ultimately the advent of home information retrieval system (e.g. two-way CATV terminals) may obviate the media for these purposes.

Probably the most efficient use of the hotlines in the combination with on-line computer terminals, whereby extensive data may be provided to any caller. Clearly the importance and utilization of hotlines, and the reliance of the consumer on the phone for instrumental purposes is a harbinger of media utilization patterns in the future.

A related consideration is that the telephone companies perhaps ought to list emergency hotline numbers in the front of all phone books in much the same way police and fire numbers are posted. Even more importantly, calls to hotlines could be provided free of charge on pay telephones, enabling those without personal phones access to hotlines as well.

Finally, within the context of this discussion, it is worth speculating about the function of the hotline as a substitute opinion leader-source, perhaps phone contact as a substitute for face-to-face integration. The fact that hotlines are so widely available probably reflects in part on the specialization of knowledge in a complex society and indirectly on the lack of polymorphic opinion leaders. Yet hotline communication, however vicarious, may serve as a link with the drug milieu. The dimensions and ramifications of such a technological interface with human communication systems needs careful study and definition.

CONCLUSIONS AND IMPLICATIONS FOR DRUG ABUSE INFORMATION AND DISSEMINATION

A composite of the utility and function of the drug hotline may now be pieced together by examining these and earlier data.

Perhaps due to the private nature of the content, drug abuse information sought

from hotlines tends to be of an instrumental nature and sought by person's probably not involved in the drug culture (in this study, those other than the user).

Earlier studies[29] have shown that those integrated into the drug milieu utilized qualitatively different sources than nonusers, and that the sources preferred vary with the type of drug. Thus, marijuana and hash users seek out friends first; other drug users prefer professional sources and friends than drug lines, in that order. However, nonusers tended to be the major users of hotlines[30] as shown in this study also, but preferred them after professional sources when available. Nonusers rated hotlines most believable.

These data were replicated in a recent study[31] where hotlines overall were rated most believable after friends. Nonusers, however, clearly considered the hotlines more believable and convenient than users.

This latter finding is open to further investigation of course, but it is suggested this is probably due to the lack of integration of nonusers in the drug milieu, than lack of access to knowledgeable friends, and the private nature of such communications may preclude contacts with other nonusers.

In terms of media strategies these data suggest dissemination of treatment related information should probably be accomplished in some permanent medium form available for hand reference. However, data about drugs in any general sense can effectively be disseminated during times of highest attendance by women to television (for example); during the day primarily. More generally, based on this analysis, there appears to be a clear need for information about handling others on drugs and factual information about pharmacological characteristics, as well as treatment data. The mass media seem ideally suited to increase dissemination of the utilitarian content, although prior analyses[32] indicate most drug abuse ads in television are nonspecific and provide little utilitarian data.

TABLE 1

Proportion of Calls by Day of the Week*

DAY	PER CENT
Sunday	17
Monday	15.5
Tuesday	21.4
Wednesday	10.7
Thursday	8.3
Friday	9.0
Saturday	18.2
	100%

*In this and subsequent tables where indicated, a one-sample chi square analysis was performed. $X^2 = 43.3$; $df = 6$; $p < .001$. N's differing from 418 represent "indeterminable" log entries.

TABLE 2

Source of Hotline Calls

N = 402

SOURCE	PER CENT
Information Seeker	30.8
Drug User	27.4
Relative of User	31.8
Friend of User	10.0
	100%

TABLE 3

Sex of Hotline Callers

N = 392

SEX	PER CENT
Male	42.3
Female	57.7
	100%

TABLE 4

Content Types of Hotline Calls

N = 368

CONTENT	PER CENT*	
Specific Pharmacological Information	18.6	
Treatment Information	27.5	
Emergency Treatment Information	10.1	→ 64.3%
Coping with Others on Drugs	26.7	
Legal Information	2.4	
Drugs Found in the House	2.4	
General Drug Information	12.3	
	100%	

*X^2 = 135; df = 6; p .001

TABLE 5

Source As a Predictor of Content of Call*

N = 362

CONTENT	SEEKER	USER	RELATIVE (OF USER)	FRIEND (OF USER)
Specific Pharmacological Information	43	12.8	4.9	10.5
Treatment Information	14	60.6	15.6	21.1
Emergency Treatment Information	3.7	22.3	4.1	15.8
Coping with Others on Drugs	1.9	0	63.9	44.7
Legal Information	1	3.2	3.3	2.6
Drugs Found in the House	0	0	7.4	0
General Drug Information	37	1.1	.8	5.3
	100%	100%	100%	100%

*Chi square test for independent samples: $X^2 = 340$; df = 18; p .001;

Contingency Coefficient = .70

TABLE 6

Summary of Significant Relationships: Using Content as the Independent Variable

	CONTENT	SOURCE	SEX	DAY
1)	Pharmacological Information	Seekers	Females	Tuesday
2)	Treatment Information	Users	Males	Tuesday
3)	Emergency Treatment Information	Users	Males/ Females	Saturday/ Sunday
4)	Coping with Others on Drugs	Relatives	Females	Thursday
5)	Legal Information	Relatives/ Users	Males	Wednesday
6)	Drugs Found in the House	Relatives	Females	Sunday/ Monday
7)	General Drug Information	Seekers	Females	Monday/ Saturday

FOOTNOTES

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16. G. J. Hanneman, "Sources of Drug Abuse on the College Campus," The University of Connecticut, DAIR Report No. 10, October, 1972.

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